



EXPRESS MAIL NO. EV055479816US

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SEQUENCE LISTING

<110> Chiron Corporation
Kyoto University
Itoh, Nobuyuki
Kavanaugh, Michael W.

<120> HUMAN FGF-20 GENE AND GENE EXPRESSION
PRODUCTS

<130> 60219-6/16770.001

<140> 09/692,945
<141> 2000-10-20

<160> 17

<170> FastSEQ for Windows Version 4.0

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<211> 648
<212> DNA
<213> Rattus norvegicus

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Leu Gly Gln Gln Val Gly Ser His Phe Leu Leu Pro Pro Ala Gly Glu
20 25 30
Arg Pro Pro Leu Leu Gly Glu Arg Arg Gly Ala Leu Glu Arg Gly Ala
35 40 45
Arg Gly Gly Pro Gly Ser Val Glu Leu Ala His Leu His Gly Ile Leu
50 55 60
Arg Arg Arg Gln Leu Tyr Cys Arg Thr Gly Phe His Leu Gln Ile Leu
65 70 75 80
Pro Asp Gly Ser Val Gln Gly Thr Arg Gln Asp His Ser Leu Phe Gly
85 90 95
Ile Leu Glu Phe Ile Ser Val Ala Val Gly Leu Val Ser Ile Arg Gly
100 105 110

Val Asp Ser Gly Leu Tyr Leu Gly Met Asn Gly Lys Gly Glu Leu Tyr
 115 120 125
 Gly Ser Glu Lys Leu Thr Ser Glu Cys Ile Phe Arg Glu Gln Phe Glu
 130 135 140
 Glu Asn Trp Tyr Asn Thr Tyr Ser Ser Asn Ile Tyr Lys His Gly Asp
 145 150 155 160
 Thr Gly Arg Arg Tyr Phe Val Ala Leu Asn Lys Asp Gly Thr Pro Arg
 165 170 175
 Asp Gly Ala Arg Ser Lys Arg His Gln Lys Phe Thr His Phe Leu Pro
 180 185 190
 Arg Pro Val Asp Pro Glu Arg Val Pro Glu Leu Tyr Lys Asp Leu Leu
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 Val Tyr Thr Gly
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<210> 3
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 <212> DNA
 <213> Homo sapiens

<400> 3
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<210> 4
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 <212> PRT
 <213> Homo sapiens

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 Met Ala Pro Leu Ala Glu Val Gly Gly Phe Leu Gly Gly Leu Glu Gly
 1 5 10 15
 Leu Gly Gln Gln Val Gly Ser His Phe Leu Leu Pro Pro Ala Gly Glu
 20 25 30
 Arg Pro Pro Leu Leu Gly Glu Arg Arg Ser Ala Ala Glu Arg Ser Ala
 35 40 45
 Arg Gly Gly Pro Gly Ala Ala Gln Leu Ala His Leu His Gly Ile Leu
 50 55 60
 Arg Arg Arg Gln Leu Tyr Cys Arg Thr Gly Phe His Leu Gln Ile Leu
 65 70 75 80
 Pro Asp Gly Ser Val Gln Gly Thr Arg Gln Asp His Ser Leu Phe Gly
 85 90 95
 Ile Leu Glu Phe Ile Ser Val Ala Val Gly Leu Val Ser Ile Arg Gly
 100 105 110
 Val Asp Ser Gly Leu Tyr Leu Gly Met Asn Asp Lys Gly Glu Leu Tyr
 115 120 125
 Gly Ser Glu Lys Leu Thr Ser Glu Cys Ile Phe Arg Glu Gln Phe Glu
 130 135 140
 Glu Asn Trp Tyr Asn Thr Tyr Ser Ser Asn Ile Tyr Lys His Gly Asp

| | | | |
|---|-----|-----|-----|
| 145 | 150 | 155 | 160 |
| Thr Gly Arg Arg Tyr Phe Val Ala Leu Asn Lys Asp Gly Thr Pro Arg | | | |
| 165 | 170 | 175 | |
| Asp Gly Ala Arg Ser Lys Arg His Gln Lys Phe Thr His Phe Leu Pro | | | |
| 180 | 185 | 190 | |
| Arg Pro Val Asp Pro Glu Arg Val Pro Glu Leu Tyr Lys Asp Leu Leu | | | |
| 195 | 200 | 205 | |
| Met Tyr Thr | | | |
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<210> 5

<211> 14

<212> PRT

<213> Artificial Sequence

<220>

<223> Oligopeptides for raising antibodies

<400> 5

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<210> 6

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Oligopeptides for raising antibodies

<400> 6

| | | |
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| | | 15 |

<210> 7

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Residues which can be incorporated into FGF-20 to
allow myc monoclonal antibody-based affinity
purification.

<400> 7

| | | |
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| 1 | 5 | 10 |

<210> 8

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> Preferred thrombin cleavage site.

<400> 8

Leu Val Pro Arg Gly

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cont

1 5

<210> 9
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Sequence which can be incorporated to allow for purification of FGF-20 because of its ability to bind to paramagnetic streptavidin beads.

<400> 9
Ser Ala Trp Arg His Pro Gln Phe Gly Gly
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<210> 10
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> Consensus amino acid sequences used to create sense and anti-sense PCR primers.

<400> 10
Phe Glu Glu Asn Trp Tyr
1 5

<210> 11
<211> 6
<212> PRT
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<220>
<223> Consensus amino acid sequences used to create sense and anti-sense PCR primers.

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1 5

<210> 12
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> Consensus amino acid sequences used to create sense and anti-sense PCR primers.

<400> 12
Glu Asn Trp Tyr Asn Thr
1 5

<210> 13
<211> 6
<212> PRT

<213> Artificial Sequence

<220>

<223> Consensus amino acid sequences used to create
sense and anti-sense PCR primers.

<400> 13

His Gln Lys Phe Thr His
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<210> 14

<211> 13

<212> PRT

<213> Artificial Sequence

<220>

<223> E-tag

<400> 14

Gly Ala Pro Val Pro Tyr Pro Asp Pro Leu Glu Pro Arg
1 5 10

<210> 15

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<223> His tag

<400> 15

His His His His His His
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a
cont

<210> 16

<211> 208

<212> PRT

<213> Rattus norvegicus

<400> 16

Met Ala Pro Leu Gly Glu Val Gly Ser Tyr Phe Gly Val Gln Asp Ala
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Val Pro Phe Gly Asn Val Pro Val Leu Pro Val Asp Ser Pro Val Leu
20 25 30

Leu Ser Asp His Leu Gly Gln Ser Glu Ala Gly Gly Leu Pro Arg Gly
35 40 45

Pro Ala Val Thr Asp Leu Asp His Leu Lys Gly Ile Leu Arg Arg Arg
50 55 60

Gln Leu Tyr Cys Arg Thr Gly Phe His Leu Glu Ile Phe Pro Asn Gly
65 70 75 80

Thr Ile Gln Gly Thr Arg Lys Asp His Ser Arg Phe Gly Ile Leu Glu
85 90 95

Phe Ile Ser Ile Ala Val Gly Leu Val Ser Ile Arg Gly Val Asp Ser
100 105 110

Gly Leu Tyr Leu Gly Met Asn Glu Lys Gly Glu Leu Tyr Gly Ser Glu
115 120 125

Lys Leu Thr Gln Glu Cys Val Phe Arg Glu Gln Phe Glu Glu Asn Trp
130 135 140

Tyr Asn Thr Tyr Ser Ser Asn Leu Tyr Lys His Val Asp Thr Gly Arg
 145 150 155 160
 Arg Tyr Tyr Val Ala Leu Asn Lys Asp Gly Thr Pro Arg Glu Gly Thr
 165 170 175
 Arg Thr Lys Arg His Gln Lys Phe Thr His Phe Leu Pro Arg Pro Val
 180 185 190
 Asp Pro Asp Lys Val Pro Glu Leu Tyr Lys Asp Ile Leu Ser Gln Ser
 195 200 205

<210> 17
 <211> 207
 <212> PRT
 <213> Rattus norvegicus

<400> 17
 Met Ala Glu Val Gly Gly Val Phe Ala Ser Leu Asp Trp Asp Leu Gln
 1 5 10 15
 Gly Phe Ser Ser Ser Leu Gly Asn Val Pro Leu Ala Asp Ser Pro Gly
 20 25 30
 Phe Leu Asn Glu Arg Leu Gly Gln Ile Glu Gly Lys Leu Gln Arg Gly
 35 40 45
 Ser Pro Thr Asp Phe Ala His Leu Lys Gly Ile Leu Arg Arg Arg Gln
 50 55 60
 Leu Tyr Cys Arg Thr Gly Phe His Leu Glu Ile Phe Pro Asn Gly Thr
 65 70 75 80
 Val His Gly Thr Arg His Asp His Ser Arg Phe Gly Ile Leu Glu Phe
 85 90 95
 Ile Ser Leu Ala Val Gly Leu Ile Ser Ile Arg Gly Val Asp Ser Gly
 100 105 110
 Leu Tyr Leu Gly Met Asn Glu Arg Gly Glu Leu Phe Gly Ser Lys Lys
 115 120 125
 Leu Thr Arg Glu Cys Val Phe Arg Glu Gln Phe Glu Glu Asn Trp Tyr
 130 135 140
 Asn Thr Tyr Ala Ser Thr Leu Tyr Lys His Ser Asp Ser Glu Arg Gln
 145 150 155 160
 Tyr Tyr Val Ala Leu Asn Lys Asp Gly Ser Pro Arg Glu Gly Tyr Arg
 165 170 175
 Thr Lys Arg His Gln Lys Phe Thr His Phe Leu Pro Arg Pro Val Asp
 180 185 190
 Pro Ser Lys Leu Pro Ser Met Ser Arg Asp Leu Phe Arg Tyr Arg
 195 200 205